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The effect of distance nurse-led fatigue management on fatigue, sleep quality, and self-efficacy in patients with multiple sclerosis: a quasi-experimental study

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Abstract

Background Fatigue is one of the most common problems in patients with multiple sclerosis (MS) and has adverse effects on their sleep status and self-efficacy. This study aimed to determine the effect of distance nurse-led fatigue management on fatigue, sleep quality, and self-efficacy in patients with MS.

Methods This quasi-experimental study was performed on 60 patients with MS in Arak, Iran. Subjects were randomly assigned into intervention and control groups. The intervention group received eight sessions of nurse-led fatigue management training through the Skyroom platform. The control group received only the usual programs. Data were collected before and two months after the intervention using the Fatigue Severity Scale, the Pittsburgh Sleep Quality Index, and the Multiple Sclerosis Self-Efficacy Scale. The significance level in this study was determined 0.05.

Results After the intervention, the mean score of fatigue severity in the intervention group was significantly lower than the control group (2.52 ± 0.40 vs 5.65 ± 0.52) ($P < 0.001$). Also, after the intervention, the mean score of self-efficacy in the intervention group was significantly higher than the control group (49.37 ± 3.25 vs 24.43 ± 2.52) ($P < 0.001$). Furthermore, after the intervention the mean score of sleep quality was lower in intervention group (11.92 ± 2.01) than the control group (15.46 ± 1.40) ($P < 0.001$).

Conclusion Distance nurse-led fatigue management improved fatigue, sleep quality, and self-efficacy in patients with MS. We recommend the use of these courses as an important step toward improving fatigue, sleep quality, and self-efficacy among these patients.

Keywords Fatigue, Multiple sclerosis, Nursing care, Patient care management, Self efficacy, Sleep quality, Telenursing

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Background

Multiple sclerosis (MS) is the most common progressive neurologic disease in young adults worldwide [1]. According to a report in 2020, about 2.8 million people worldwide are living with this disease [2]. Iran is a country in the Middle East with moderate to high prevalence of MS, ranging from 5.30 to 74.28 per 100,000 individuals [3, 4]. Fatigue is one of the most common symptoms of MS, ranged from 36.5 to 78.0%. It can significantly affect the patients' quality of life and impose an economic

Conclusion

The findings of this study showed that the distance nurse-led fatigue management can improve fatigue, sleep quality, and self -efficacy in patients with MS. These findings showed the important role of nurses in community-oriented care of patients with MS. Since nurses can play an effective role in the management of patients with MS, they should pay more attention to the patients' fatigue. Moreover, it is necessary for them to learn fatigue reduction skills and include them in patient care protocols. We recommend teaching these skills to nursing students and including these skills in the nursing continuing education. In addition, we recommend the inclusion of nurse-led fatigue management as an inexpensive non-pharmacological intervention in the management of patients with MS. The distance nature of similar interventions provides the possibility of access to the people in remote areas, as well as providing services to patients in situations such as the COVID-19 pandemic. We recommend further research with a longer follow-up period on the effectiveness of similar interventions.

Abbreviations

ANCOVA	Analysis of Covariance
COVID-19	Coronavirus Disease of 2019
MS	Multiple Sclerosis
MSSES	Multiple Sclerosis Self-Efficacy Scale
PSQI	Pittsburgh Sleep Quality Index
FSS	Fatigue Severity Scale
SPSS	Statistical Package for the Social Sciences

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Authors' contributions

MQ, ZKh, MR, and MEM made substantial contributions to the conception and design of the study. Data was collected by MQ. Data analysis and interpretation were done by ZKh, MQ, and MR. MQ conducted the intervention. ZKh and MQ participated in drafting the manuscript. ZKh, MQ, MR, and MEM revised the manuscript critically for important intellectual content and final approval of the manuscript.

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Availability of data and materials

Data resource and statistical analysis outputs can be provided by the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

The approval of the study was obtained from the Ethics Committee of Shiraz University of Medical Sciences (ethics code: IR.SUMS.REC.1399.1035) and the officials of the MS Association. Furthermore, all methods were carried out in accordance with Declaration of Helsinki and relevant guidelines and regulations. The goals and process of the research were also explained to the patients. All participants signed the informed consent form. Participation in the study was voluntary and participants could withdraw at any time. In addition, the participants' information was kept confidential.

Consent to publication

Not applicable.

Competing interest

The authors declare no competing interests.

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